



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,594	09/30/2005	Patrice Jannic	58650US007	5638
32692 7590 12/01/2009 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER FERGUSON, LAWRENCE D				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
12/01/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com  
LegalDocketing@mmm.com

### Office Action Summary

**Application No.**

10/551,594

**Applicant(s)**

JANNIC, PATRICE

**Examiner**

Lawrence D. Ferguson

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14, 15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14, 15 and 17-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the amendment filed July 22, 2009. Claims 14 and 20 were amended rendering claims 14-15 and 17-26 pending in this case.

### ***Claim Rejections – 35 USC 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14-15 and 17-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 14, the phrases, "A crosslinked heat-activatable adhesive" and "one or more crosslinking agents, in amounts of less than about 0.25 wt%, capable of effecting crosslinking of the one or more novolac phenolic resins" is indefinite. It is unclear if Applicant is claiming a crosslinked adhesive or an adhesive that is capable of being crosslinked.

Claim 17 is dependent upon cancelled claim 4. Examiner suggests amending claim 17 to depend upon claim 14.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections – 35 USC § 103(a)***

5. Claims 14-15 and 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al. (U.S. 5,385,979).

Ozawa discloses an adhesive composition (column 1, lines 7-12 and column 2, lines 1-5) comprising a heat-reactive phenolic resin, prepared as a novolac phenolic resin (column 3, lines 53-57 and column 4, lines 37-41) and an elastomer, such as chlorinated natural rubber (column 5, lines 54-65).

The elastomer is typically used in an amount ranging from 1 to 99% by weight of the adhesive composition (column 6, lines 12-16) and the phenolic resin is typically used in an amount ranging from 20 to 70% by weight of the adhesive composition. Ozawa further discloses a crosslinking agent is used in an amount ranging from about 1 to 95 of the novolac phenolic resin (column 5, lines 35-38) and is used to fully crosslink the novolac phenolic resin (column 4, lines 41-44). Regarding the crosslinking agent of claim 14, it would have been obvious to one of ordinary skill in the art for the phrase, "less than about 0.25 wt%" to be interpreted as including amounts up to 1 wt%, where about 1 wt% as disclosed in Ozawa would be interpreted as including amounts lower than 1 wt%, which includes amounts less than about 0.25wt%, as in claims 20-21.

Concerning the ratio of the mass of one or more novolac phenolic resin over the mass of one or more elastomers, the average of the 20-70% weight of the novolac phenolic resin is 45% and the average of the 1-99% weight of the elastomer is 50%, rendering 45% novolac phenolic resin over 50% elastomer is 0.75, as in claim 15. Because the adhesive composition of Ozawa has the same materials (elastomer, novolac phenolic resin and crosslinking agent) with the same function, the glass transition temperature would be an expected feature of the adhesive composition. Recitation of a newly disclosed property does not distinguish over a reference disclosure of the article or composition claims. *General Electric v. Jewe Incandescent Lamp Co.*, 67 USPQ 155. *Titanium Metal Corp. v. Banner*, 227 USPQ 773. Applicant bears responsibility for proving that reference composition does not possess the characteristics recited in the claims. *In re Fitzgerald*, 205 USPQ 597, *In re Best*, 195 USPQ 430, as in claim 14.

Concerning claim 18, the phrase, "less than 1 wt.%" is construed as 0, therefore, because Ozawa is silent of free phenol content, the reference has 0 wt.% of free phenol content.

Concerning claim 19, the reference discloses crosslinking agents of the adhesive composition include hexamethylenetetramine (column 4, lines 44-51).

Concerning claim 22, the phrase, "non-curable thermoplastic resins" constitutes a 'capable of' limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform where in an amount of less than 20wt.% is interpreted as including 0wt%.

Concerning claim 23, the adhesive composition can contain any known metal oxides such as oxides of zinc and lead, which are construed as being electrically conductive particles.

Concerning claim 24, Ozawa discloses the adhesive composition has a thickness of about 0.1 to 1.0mils ( $2.54\mu\text{m}$  to  $25.4\mu\text{m}$ ) (column 7, lines 19-22) where about  $25.4\mu\text{m}$  is interpreted as including amounts up to about  $30\mu\text{m}$ , where about  $30\mu\text{m}$  is interpreted as also including amount lower than  $30\mu\text{m}$ .

Concerning claim 25, the adhesive composition of Ozawa is useful for bonding various materials (column 1, lines 8-13). In claim 25, the phrase, "capable of being functionally maintained for at least about 200 Flexural Cycles" constitutes a 'capable of' limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform.

***Claim Rejections – 35 USC § 103(a)***

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al. (U.S. 5,385,979) in view of Kropp et al (U.S. 6,500,891).

Ozawa is relied upon for instant claim 14, as above. Ozawa does not explicitly disclose the assembly has an electronic element. Although Ozawa discloses the adhesive composition is useful for bonding various materials (column 1, lines 8-13) the reference does not specifically teach the adhesive composition is useful for bonding an electronic element. Kropp teaches an adhesive composition comprising novolac

phenolic resin, which is used to bond an electronic part of a circuit board to a chip (column 11, lines 4-10 and column 12, lines 1-7). It would have been obvious to one of ordinary skill in the art to have substituted the adhesive composition of Ozawa for the adhesive composition of Kropp in order to bond the electronic parts of Kropp, as Kropp teaches adhesive compositions can be used to bond electronic parts and Ozawa teaches the adhesive composition can bond various materials (column 1, lines 8-13) which include electronic parts.

7. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art does not teach or suggest the recited adhesive further including wherein the elastomer comprises nitrile butadiene rubber.

The prior art does not teach motivation or suggestion for modification to make the invention as instantly claimed.

### **Response to Arguments**

8. Applicant's arguments of the rejection made under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al. (U.S. 5,385,979) have been considered but are unpersuasive. Applicant argues Ozawa does not teach or suggest an adhesive wherein one or more elastomers are selected from natural rubbers, butyl rubber, nitrile butadiene rubber, synthetic polyisoprene, ethylene-propylene rubber, ethylene-

propylene-diene rubber (EPDM)...or combinations thereof. Examiner respectfully disagrees because Ozawa discloses an adhesive composition (column 1, lines 7-12 and column 2, lines 1-5) comprising a heat-reactive phenolic resin, prepared as a novolac phenolic resin (column 3, lines 53-57 and column 4, lines 37-41) and an elastomer, such as chlorinated natural rubber (column 5, lines 54-65). Applicant argues none of the elastomers listed in Applicant's claim 14 are chlorinated or brominated polyolefins.

Although claim 14 does not specifically recite chlorinated natural rubber, the instant claims do not exclude the natural rubber of Ozawa from being chlorinated. Whether or not natural rubber is chlorinated does not change the rubber to be synthetic. Applicant indicates evidence has been submitted to show natural rubber is non-chlorinated in a well-known book in the polymer science field, Introduction to Physical Polymer Science, 2nd Edition, by L.H. Sperling, on page 153, section 4.5.1. Examiner has read and considered the evidence submitted on page 153, section 4.5.1 of Introduction to Physical Polymer Science. In light of the evidence submitted by Applicant, Examiner maintains whether or not natural rubber is chlorinated does not change the rubber to be synthetic.

Applicant's arguments of the rejection made under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al. (U.S. 5,385,979) in view of Kropp et al (U.S. 6,500,891) have been considered but are unpersuasive. Applicant argues Kropp does not cure the deficiencies previously argued over Ozawa. Because Ozawa has been maintained over claim 14, Ozawa and Kropp are maintained over Kropp. Kropp teaches an adhesive



composition comprising novolac phenolic resin, which is used to bond an electronic part of a circuit board to a chip (column 11, lines 4-10 and column 12, lines 1-7).

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-

272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample, can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Lawrence Ferguson/  
Patent Examiner, Art Unit 1794

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 1794